

Appl. No. : 10/815,176/833,496
Filed : March 31, 2004

REMARKS

Amendments to the Claims

Applicants respectfully request entry of the Amendments to the Claims set forth above. Support for new Claims 18 and 19 may be found, for example, on page 8, ¶ 33 of the specification and original claim 33. Support for new Claim 20 may be found, for example, on page 17, Example 1. Support for new Claim 21 may be found, for example, on page 8, ¶ 34.

Claim Rejections Under 35 U.S.C. § 102

The Examiner rejected Claims 1-3, 5, 8-10 and 14-17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,972,694 to *Mathus*. Specifically, the Examiner stated that the *Mathus* patent comprises a first tray of a plurality of wells each having an electrode, a second tray comprising a plurality of wells and a membrane supporting a monolayer of cells, where a first and a second component are formed on either side of the membrane so that an electrode may be placed in the upper chamber to measure membrane potential or that the device may be used to perform transport studies.

The Examiner also rejected Claims 1, 3, 10 and 15-17 under 35 U.S.C. § 102(b) as being anticipated by DE 10117723. Specifically, the Examiner stated that Figure 9 shows a first tray having a plurality of wells with a monolayer of cells positioned on either side of the membrane of the first wells, the first tray being placed inside a second tray, the first tray having electrodes positioned inside the chambers of the first tray.

Neither *Mathus* nor DE 10117723 anticipates amended Claim 1 or amended Claim 15. For prior art to anticipate any of Claims 1-17, it must disclose expressly or inherently each and every element of those claims. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771 (Fed. Cir. 1983).

As amended, Claim 1 recites a multiwell plate assembly comprising a circuit board comprising *one or more electrodes extending from the circuit board*, a first tray comprising an array of sample wells *having holes formed therein and placed over the electrodes so that the electrodes extend up and into at least some of the sample wells*, a second tray comprising a plurality of cell layers such that the second tray can be coupled to the first tray to form a plurality of assay chambers such that each assay chamber comprises a first compartment, a second

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compartment and at least one intact or permeabilized cell layer separating the first compartment from said second compartment.

Amended Claim 1 is not anticipated by *Mathus* or by DE 10117723. Because the sample wells in Claim 1 have holes through which the electrodes extend, the electrodes may be *removably* placed into the sample wells, allowing replacement of trays and re-use of electrodes. Also, existing commercially available trays can be used and/or easily modified for use in the system. Such an advantage is not disclosed in either *Mathus* or DE 10117723.

Unlike Claim 1, neither *Mathus* nor DE 10117723 disclose “a circuit board comprising one or more electrodes extending from [the] circuit board [and] a first tray comprising an array of sample wells having holes formed therein and placed over [the] electrodes so that [the] electrodes extend up and into at least some of [the] sample wells.” Because neither *Mathus* nor DE 10117723 expressly or inherently teaches every element of Claim 1, neither *Mathus* nor DE 10117723 anticipates Claim 1.

As amended, Claim 15 claims a method of forming a multiwell plate assembly by *placing a first tray comprising a plurality of sample wells onto a circuit board comprising one or more electrodes such that the one or more electrodes extend from the circuit board into at least some of the sample wells*, and placing a plurality of cell layers into the plurality of sample wells.

Amended Claim 15 is not anticipated by *Mathus* or by DE 10117723. Unlike Claim 15, neither *Mathus* nor DE 10117723 discloses a method step of “placing a first tray comprising a plurality of sample wells onto a circuit board comprising one or more electrodes such that [the] one or more electrodes extend from [the] circuit board into at least some of said sample well.” Because *Mathus* does not disclose expressly or inherently each and every element of Claim 15, it does not anticipate Claim 15. Because DE 10117723 does not disclose every element of Claim 15, it does not anticipate Claim 15. Because Claims 1-3, 5, 8-10 and 14-17 are not anticipated by *Mathus* or DE 10117723, Applicant respectfully requests that the Examiner’s rejection for anticipation be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

The Examiner rejected Claims 4-7, 11, 12 and 13 under 35 U.S.C. § 103(a) as obvious over *Mathus* in view of U.S. Patent No. 6,936,462 to *Owen et al.* Specifically, the Examiner stated that *Owen et al.* discloses a device for measuring cell membrane potentials and for

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performing ion transport studies; the reference discloses monitoring the transport of sodium, potassium and chloride ions. Further, *Owen et al.* discloses the use of voltage and patch clamps for performing the membrane potentials, thus “it would have been obvious for one skilled in the art to use a voltage or patch clamp to perform the membrane potential studies in view of the known practice as taught in Owen.” Finally, regarding Claim 13, the Examiner noted that *Mathus* teaches the use of a 96 well plate and in the absence of unexpected results it would have been obvious to use any number of wells.

These references, taken separately or in combination, do not render Claims 4-7, 11, 12 and 13 obvious. A *prima facie* case of obviousness requires that all of the claim limitations be taught or suggested by the prior art. See M.P.E.P. § 2143.03. The specific elements and limitations in amended Claim 1 are not disclosed by *Mathus* or *Owen*. Thus, Claims 4-7, and 11-13 are not obvious. See M.P.E.P. § 2143.03.

As discussed above, *Mathus* does not disclose “a circuit board comprising one or more electrodes extending from [the] circuit board; [and] a first tray comprising an array of sample wells having holes formed therein and placed over [the] electrodes so that [the] electrodes extend up and into at least some of [the] sample wells”. *Owen* does not disclose these limitations either. The combination of *Mathus* and *Owen* does not produce all of the elements of amended Claim 1, thus, Claims 4-7 and 11-13 are not obvious. Because Claims 4-7 and 11-13 are not rendered obvious by the combination of *Mathus* and *Owen*, Applicant respectfully requests that the Examiner’s rejection be withdrawn.

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CONCLUSION

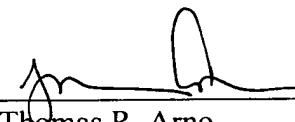
The Applicants have endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of these amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

If the Examiner has any questions which may be answered by telephone, he is invited to call the undersigned directly. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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